RAISE YOUR ENERGY EFFICIENCY I.Q.

A Message from Energy Commission Chairman Pfannenstiel

Saving Energy is a Way of Life

My fellow Californians,

California is a national leader in promoting energy efficiency. As a result, our energy use per person has remained stable for over 30 years while the national average has steadily increased.

Despite this success, we still have much to do to reduce energy use in our homes. The benefits are highly valuable — reducing energy use not only lowers your energy bills, but helps our electricity system remain reliable, even during high peak load periods, while also protecting our environment.

In 2006, California established aggressive goals to reduce greenhouse gases that cause global warming. These goals seek to end annual increases and cut today's carbon emissions by 25 percent, so we can return to 1990 levels by the year 2020.

Efforts to accomplish this goal represent important first steps in addressing the threat of global warming. We owe our children and our grandchildren nothing less.

As you consider the sale or purchase of your home, this booklet asks that you recognize what energy efficiency measures have been built into the home, and to make further improvements to save energy and reduce peak demand. I hope it kindles your interest in saving energy, whether in your current home or the one being considered for purchase.

Thank you for your energy efficiency actions that help make California a better, more environmentally sustainable place to raise our families.

Sincerely,

Jackalyne Pfannenstiel

Overview

Whether you are buying or selling a home, you should consider how much energy it will take to make it a comfortable place that meets your needs. Not only do energy bills consume a growing share of our household budgets, but experts now agree that the way we use energy today will have a profound effect on our climate for years to come.

This booklet will help you uncover the facts about the energy efficiency of a home and how to find out the best ways to improve it.

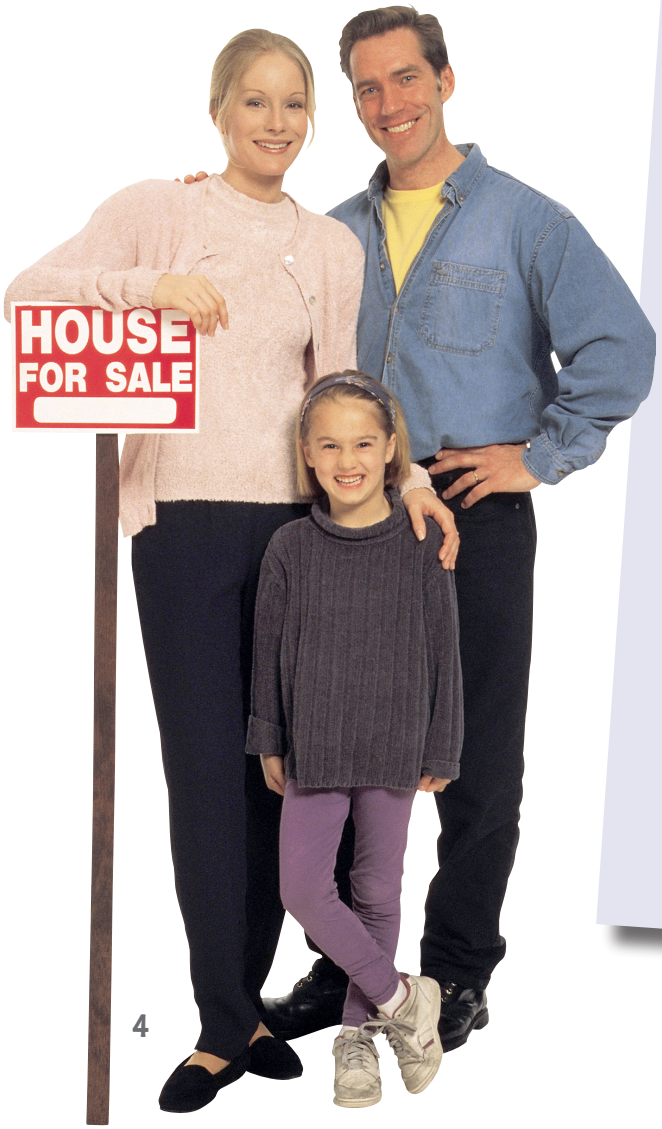
Keep in mind that energy efficiency is different than energy consumption. You may live in the most energy efficient house in your neighborhood but that may not mean you will have the lowest utility bills. If you increase home energy efficiency by investing in additional insulation or in efficient heating and air conditioning, you may still cause high energy consumption if you operate your home inefficiently. Behaviors, such as setting the thermostat higher than 68 degrees during the winter and not turning it down at night or when no one is home, or leaving the lights and computer on all the time, will increase those bills. In other words, while equipment may be operating efficiently, it is operating longer than necessary so that total energy consumption increases. To lower energy bills, invest in energy efficiency and renewable energy and follow energy-wise behavior.

After the mortgage payment, the energy bill is often the second largest monthly home ownership expense.

Know the Facts

Whether you are getting ready to sell your home – or preparing to buy one – disclosure of the facts regarding the property is a major consideration.

Sellers must fully disclose everything they know about their property that may influence the buyer's decision. This information, referred to as "material facts," will help sellers determine the price and terms they are willing to accept.



If you are a seller, this booklet:

- *Helps you determine if there are any material facts that may be your legal obligation to disclose regarding the energy efficiency of your home.*
- *Will help you identify energy improvements that may make your home more attractive to buyers and appraisers.*

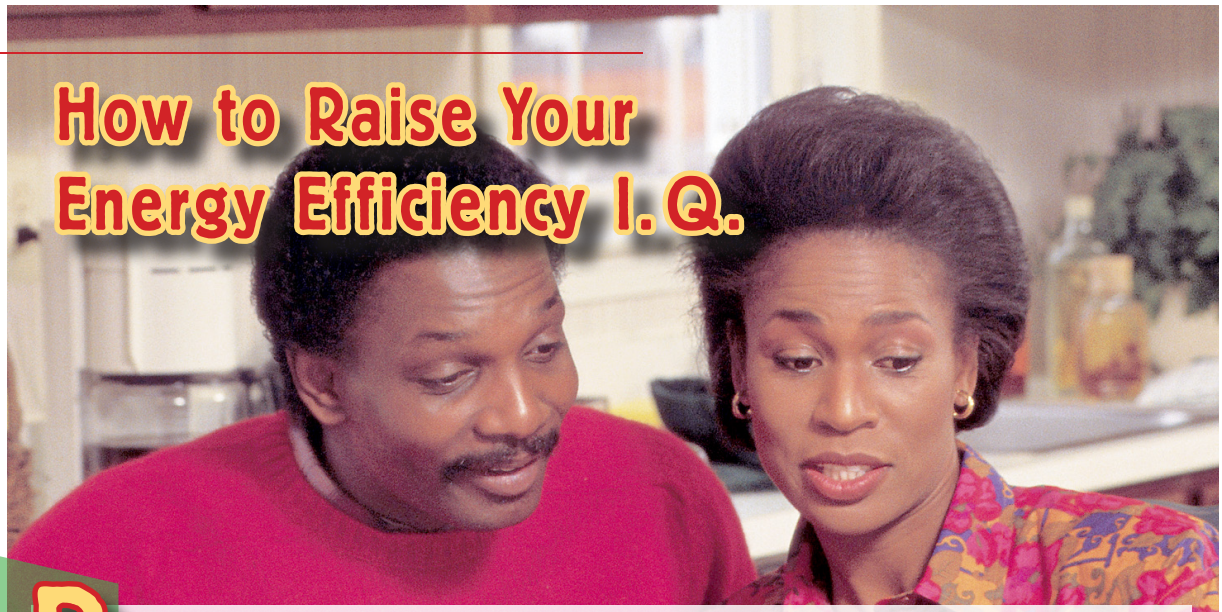
If you are a buyer, this booklet:

- *Can help you learn what kinds of energy inspections you may want to seek before you buy.*
- *Can help you know what to expect* BEFORE *your first energy bill arrives.*
- *Offers tips to help you shop and compare the energy efficiency of homes you are considering.*
- *Can help you learn about some of the cost-effective options for lowering the energy bills in any home you are thinking of buying.*
- *Identifies resources to help you finance energy improvements.*

If you are a real estate licensee, this booklet:

- *Helps you to understand why energy efficiency aspects of a home may be material facts that buyers and sellers could have questions about.*

How to Raise Your Energy Efficiency I.Q.



Purchasing or selling a home involves several steps, including disclosures and inspections. During this process it is a good idea to evaluate home energy-related features to avoid utility bill surprises. For instance, if you are a buyer, reviewing a year's worth of utility bills paid by the previous occupant may help you anticipate your new energy bills.

As a seller, you may decide to evaluate the energy efficiency of your home and make some improvements before putting your house on the market, making it easier to sell or to potentially receive a higher price for the house. As a buyer, consider the efficiency and comfort of a home. Once you have decided to buy, determine whether to make some improvements to the house before moving in.

When deciding to have a home inspection, it is a valuable step to request information on energy efficiency as part of the home inspection report. Requesting an inspection that includes a look at the present energy features of the house is your choice as a consumer.

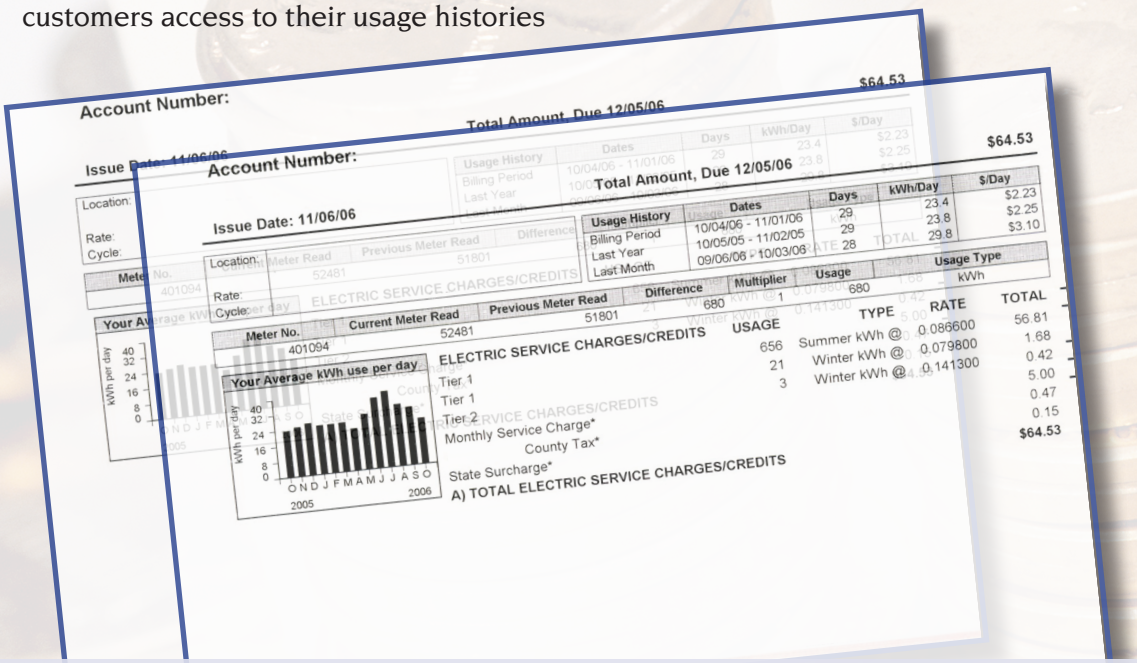
Consider including solar power as part of your decison, particularly if roof work is to be performed. Page 13 describes available incentives.

Begin With The Basics: The Energy Bill

As a potential buyer, the energy bills of the previous occupant can be a first step to help you understand what your energy costs are likely to be. While sellers are not obligated to share their utility bills, many are willing to do so if you ask.

If the old bills have not been saved, the information is available to the current resident through the local utility's customer service Web site or by calling the utility.

Throughout the state, utilities give customers access to their usage histories in different ways. For example, some utilities offer customers historical monthly use figures online or upon request. Most provide previous month comparisons in each bill. Keep in mind that utilities do not release this personal bill information to any third party without written consent from the customer. This means that the seller would need to request that this information be provided to you.



The energy bills of a current homeowner may not be representative of a future owner's bills. This is because energy use habits can – and often do – differ in significant ways. Similarly, an energy inspection or rating report is only an estimate by the inspector or rater. Remember to consider utility bills and energy reports carefully. Your actual home energy bill depends not only on the energy features of your home, but on your usage patterns as well.

Making Sense of Prior Energy Bills

Having the previous owners' utility bills makes you better informed. Do not forget, however, that energy bills are only part of the story. Comparing your energy bills to someone else's can be like comparing apples to oranges. If your energy use habits differ greatly from those of the current occupant, their bills could be misleading.

A number of factors can cause these differences: the number of people living in the home, the number, age, and size of any plug-in appliances, the settings on thermostats, water heaters, pool or spa timers, and more. In addition, living habits or extra plug-in equipment such as a large TV, second refrigerator, wine cooler, freezer, aquarium, fountain, water bed, landscape lighting or medical equipment can make a big difference.

If you are a potential buyer, asking a few key questions may help you understand the previous occupant's energy consumption. Ask what, if any, energy efficiency improvements have been made to the home. The current occupant may already be taking steps to reduce energy bills.

The end of this booklet contains a simple checklist with helpful questions for you to consider. Answers to these questions may help you determine what you could do to increase the energy efficiency of the home you are considering. Your real estate agent may be able to help you obtain this information.

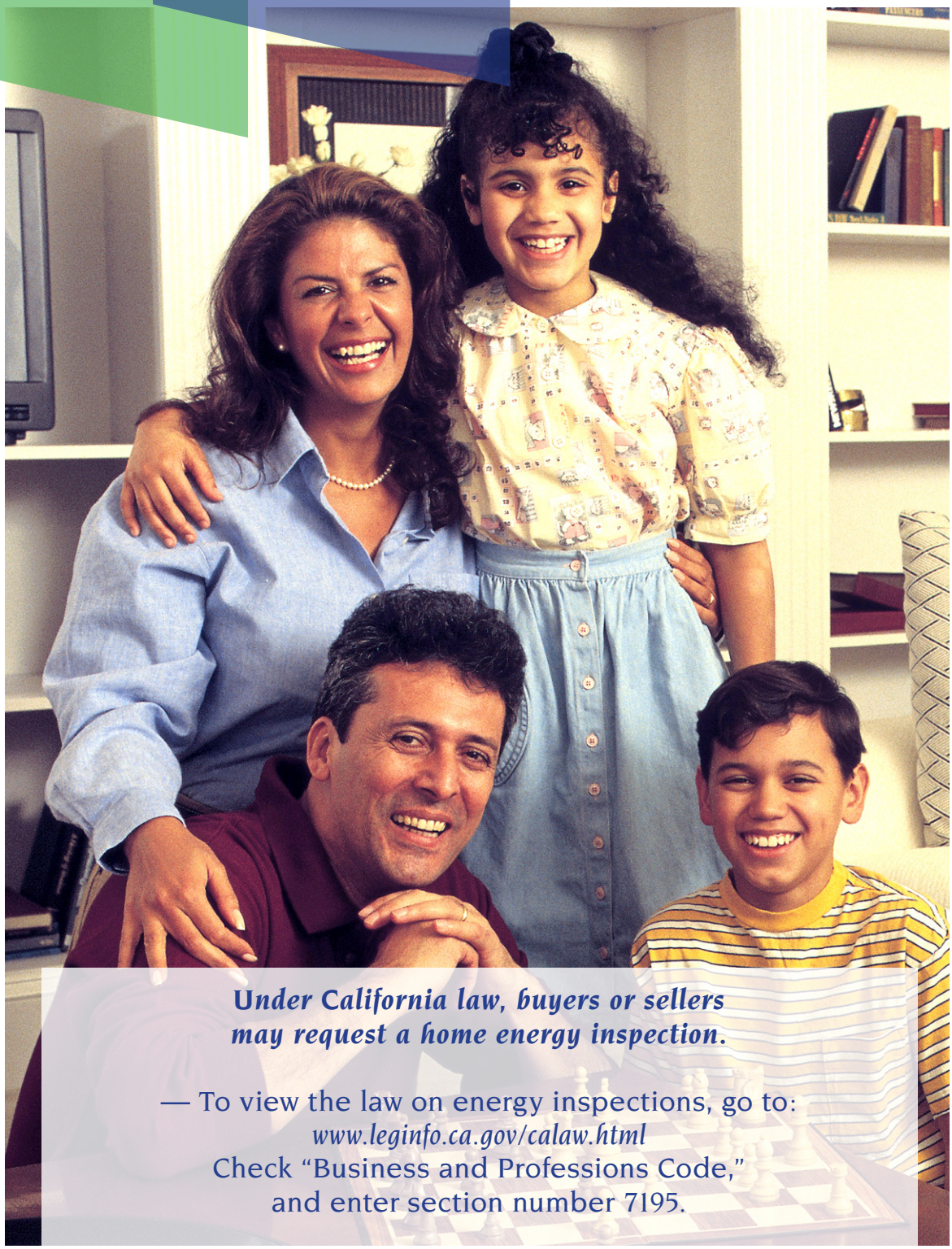
Important improvements to the energy efficiency standards for new homes were put into place in 1982. If the house was built before then, chances are that it is less efficient than a post-1982 house unless significant improvements have been made.

While an energy inefficient older home may be costly to its current owner, it could be a real opportunity for a buyer who is ready to invest in the right improvements. For example, adding additional ceiling insulation can cut your energy costs significantly, and newer model ENERGY STAR® appliances use as little as one-third the electricity of older models. Adding solar, particularly when reroofing, can drastically reduce your electricity bills.

A $100 per month difference in utility bills is worth the same as a $15,000 change in the sale price.

— Assuming a seven percent mortgage interest rate over 30 years.

The Next Step: Energy Ratings and Inspections



Under California law, buyers or sellers may request a home energy inspection.

— To view the law on energy inspections, go to:
www.leginfo.ca.gov/calaw.html
Check "Business and Professions Code,"
and enter section number 7195.

Buyers and sellers seeking professional assistance to help them assess the energy efficiency of a property have two distinct options to choose from. These are:

1. *Home Energy Rating Services*
2. *Home Energy Inspections*

Home Energy Rating Services

Home energy rating services use a professional to systematically inspect and analyze the energy systems of each home based on a standardized scale. The resulting rating is a structured assessment of the energy efficiency of the home which also recommends cost-effective measures to make the home more energy efficient.

Home Energy Rating System (HERS) raters are energy specialists. They can quantify expected energy use and determine cost-effective improvements for home sellers and buyers. They also are trained to visually assess how well energy efficiency measures have been installed and perform diagnostic testing on certain building components.

Energy-related features most often tested by HERS raters include air conditioners, ducting, and the building envelope (including exterior roof, walls, doors and windows). HERS raters often use special pressurization fans to measure air leakage from duct work and/or the building envelope as a whole. Some check the refrigerant charge and airflow of air conditioning systems. Others may use heat-sensing infrared cameras to seek out poorly installed insulation in walls, floors and ceilings. The cost of these additional services are charged to the customer.

In addition to HERS raters, there are a few businesses that offer more comprehensive diagnostics and perform repairs and energy efficiency improvements. These specialists are referred to as whole-house or home performance contractors. They are licensed contractors who are trained to use special diagnostic tools to uncover energy efficiency problems and opportunities for improvements that would not otherwise be determined. They may or may not be members of the California Building Performance Contractors Association.

Photo courtesy of The National Renewable Energy Laboratory, Inc.

For more information visit: *www.energy.ca.gov*/HERS

Home Energy Inspections

In California, the sale of a home often involves a home inspection. Buyers are anxious to find out everything they can about a property before purchasing it. Sellers may or may not get a home inspection prior to putting a property up for sale, depending on local custom and/or the condition of the property.

A home inspection is a noninvasive, physical examination of the plumbing, mechanical, electrical and structural systems of a property to search out material defects. You may also request that a home inspection include an energy inspection. Be sure to select an inspector who has been trained evaluating the energy features of a home.

If you request a home energy inspection, here are examples of energy efficiency items that may be included on your inspector's checklist:

- *Insulation R-values in attics, roofs, walls, floors, and heating and cooling ducts*
- *Window frame types and number of glass panes*
- *Age, fuel type, and efficiency ratings of the heating and cooling equipment, water heater, and other major appliances*
- *General integrity and air leakage through walls, windows, doors, and duct system.*

While the home energy inspection report will contain many useful observations, be aware that the home inspector is not required to be a licensed contractor, engineer or architect and that the energy systems inspected are not typically field-tested with diagnostic equipment to verify their actual performance.

When choosing a home inspector, you should know that home inspectors may be a member of a professional association, such as the American Society of Home Inspectors (ASHI), the California Building Performance Contractors Association (CBPCA), the California Real Estate Inspection Association (CREIA), the National Association of Certified Home Inspectors (NACHI), the National Association of Home Inspectors (NAHI), the National Institute of Building Inspectors (NIBI) or the American Institute of Inspectors (AII).

These organizations have a code of ethics and professional guidelines for their members. To see what membership entails and how to find a home inspector in your area visit:

www.ashi.org
www.cbpca.org
www.creia.org
www.inspection.org
www.nachi.org
www.nahi.org
www.nibi.org

Under California law, home inspectors may not offer compensation of any kind to property owners and/or real estate agents for home inspection referrals.

New Requirements for Heating and Cooling System Replacements

One of the most pervasive energy wasters in homes with central heating and air conditioning systems are leaky air ducts. Studies have shown that in California the average home's ducting system leaks nearly 30 percent and some leak even more. That's why it's a good idea to have the ducts tested and sealed, particularly if you use central air conditioning.

Beginning October 2005, California homeowners whose homes are located away from the coast in climate zones specified by the Energy Commission, must have their ducts pressure tested, sealed, and verified by a HERS rater whenever heating and cooling equipment is replaced. There are some specific conditions, procedures, and alternatives that the Commission has established, and in some cases exemptions may apply. Find out more at: *www.energy.ca.gov/title24/changeout*

Although licensed heating and cooling contractors are legally obligated to obtain necessary permits for compliance with building codes when they replace heating and cooling equipment, they sometimes fail to do so. Note that the Real Estate Transfer Disclosure Statement requires a seller to disclose any alterations to a home that are made without necessary permits or are not in compliance with building codes. That's why it is wise for the seller to take care of the duct sealing before selling the house if this was not done when the equipment was replaced. The best course for the buyer is to inquire about duct sealing if equipment was replaced.

The average home's heating and cooling ducts leak nearly 30 percent. This raises energy bills, draws dirt and air pollutants into the home, and on hot days can contribute to utility outages.

Photo courtesy of The National Renewable Energy Laboratory, Inc

Financing Energy Efficiency Upgrades

If you are looking to finance energy improvements, there are several types of loans to consider.

If you are purchasing a home, you may be able to qualify for an Energy Efficient Mortgage (EEM). These loans provide the borrower with special benefits either by stretching the debt-to-income qualifying ratio when purchasing an energy efficient home or by providing additional financing for the cost of efficiency measures as part of the mortgage.

EEMs are available from the Federal Housing Authority (FHA), conventional lenders (Fannie Mae, Freddie Mac), the Veterans Administration (VA), California Housing Finance Authority (CalHFA), and other first-time home buyer programs. While the median price for a home in California exceeds the guidelines of these programs, many homes being sold may still be eligible for these financing options. Check with lenders in your area to determine if an EEM is right for you.

Another common way to finance energy improvements is through an equity loan or equity line of credit. Check with your lenders to find out if this is feasible for you.

Federal tax credits for energy efficiency upgrades are available through 2007 and may be extended. Ask your home inspector or rater about these incentives. For more information visit: *www.energystar.gov/taxcredits*

Utilities also usually offer financial incentives for adding insulation, purchasing a new refrigerator, or installing high efficiency heating and air conditioning systems, compact fluorescent light bulbs, whole house fans and efficient water heaters, as well as many other measures. Contact your utility for information on their program offerings.

It may also be helpful to check California's *Flex Your Power* Web site for the most recent information on rebates, grants, loans or other incentives that may be available at *www.fypower.org/res/tools/rgl.html*

Manufacturers also offer discounts or rebates on efficient products, so check their websites or your retailer for possible offers.

The following websites provide additional information that may help you to finance your energy efficient home improvements:

www.bankrate.com/brm/news/home-improvement/remodeling1.asp
www.consumeraction.gov/caw_housing_improvement_repairs.shtml

Go Solar California!

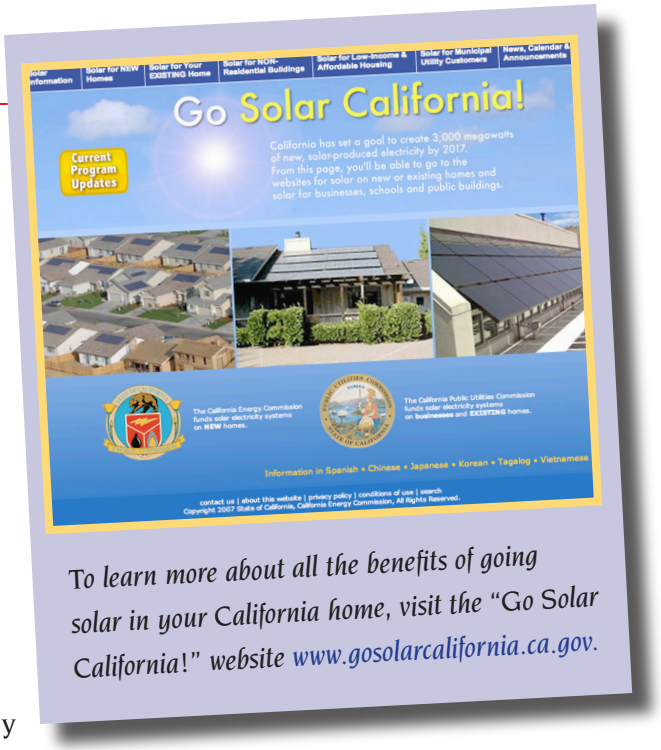
As part of Governor Arnold Schwarzenegger's Million Solar Roofs Program, California has set a goal to generate 3,000 megawatts of new, solar-produced electricity by 2017 — moving the state toward a cleaner energy future and lowering the cost of solar systems for all consumers. Senate Bill 1 (Murray), signed by the Governor on August 21, 2006, directs the California Public Utilities Commission and the Energy Commission to implement the program.

The California Public Utilities Commission, through its California Solar Initiative, will provide over $2 billion in incentives over the next decade for existing residential homes and existing and new commercial, industrial, and agricultural properties.

The California Energy Commission is managing a 10-year, $400 million program to encourage solar in new home construction through its New Solar Homes Partnership.

The California Solar Initiative offers incentives for installing solar power, taking up to 30 percent off the installed cost of the system for a typical home! Incentives will be paid "up front" based on expected performance.

If you install a solar system that produces more electricity than you need, you can make your meter run backwards! The energy charge on your electric bill could actually be close to zero since you only pay the difference between how much electricity you generate and how much you use.



To learn more about all the benefits of going solar in your California home, visit the "Go Solar California!" website www.gosolarcalifornia.ca.gov.

In addition to rebates available through the California Solar Initiative, you can save on your new solar electric power system by taking a federal income tax credit for up to 30 percent of the net installed cost, capped at $2,000. Also, while the value of your home will increase, your property tax bill will remain the same since your solar system is tax exempt.

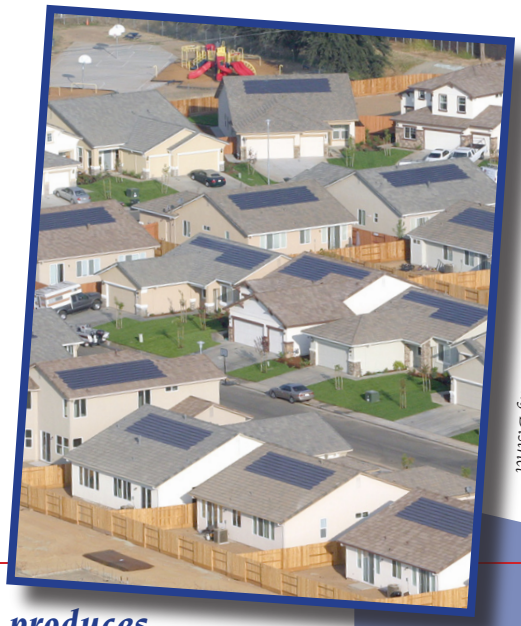


Photo courtesy of Sacramento Municipal Utility District

***The energy used in the average home produces roughly twice as much greenhouse gas pollution as the average car* (US EPA).**

Smart Energy Efficiency Actions You Can Take

1. Examine past energy bills for any existing home you are considering.
2. Get a written home energy inspection report issued by a professional property inspection service.
3. Get a home energy rating for the house.
4. Ask your lender about an Energy Efficient Mortgage or other ways to pay for energy efficiency improvements after you move in.
5. Make sure legally required duct sealing is done whenever heating and air conditioning equipment is replaced.
6. Buy Energy Star appliances, light bulbs and electronics and follow energy-wise operating tips for your home.

Go to these Web sites to complete a free do-it-yourself energy audit:

Pacific Gas & Electric Company:
www.pge.com/res

Southern California Edison:
www.sce.com/_CustomerView/Residential

San Diego Gas & Electric:
www.sdge.com/residential

Southern California Gas:
www.socalgas.com/residential

Municipal utility websites at:
www.cmua.org

Home Energy Saver:
http://hes.lbl.gov

Tips to Trim Your Gas and Electric Bill

- *Set your thermostat to 68 or lower in winter and 78 or higher in summer when you are home. Turn it off when you are not at home.*
- *Replace incandescent bulbs with compact fluorescent ones. Use combined photocell/ motion sensor controls for exterior lighting.*
- *Wash only full loads of laundry and use cold water when possible.*
- *Turn your home computer and monitor off when they are not in use.*
- *Caulk, seal or weatherstrip seams, cracks and openings to the outside around windows and doors.*
- *Close the fireplace damper when the fireplace is not in use.*
- *Replace furnace filters monthly, or as specified by the filter manufacturer.*
- *Let the sun shine through your windows in the winter and close draperies at night. You can also use drapes to block the sun out in the summer.*
- *Use fans, including whole house fans, ceiling fans or portable fans in place of air conditioning whenever possible.*
- *Plant trees to provide shade, but keep solar panels unshaded.*
- *Install* ENERGY STAR® *products.*

For Additional Tips to Trim Your Gas and Electric Bill visit:

www.consumerenergycenter.org

www.energysavers.gov

Your local utility Web site, or

www.fypower.org

Home Buyers' Energy Checklist

Property Address:

_____

_____

_____

Questions to Ask the Seller:

Are the previous occupant's energy bills available for my review?

☐ Yes (at least 12 months)
☐ Some (less than 12 months) ☐ No

If bills are unavailable, will you provide a usage history report from the utility?

☐ Yes ☐ No ☐ Occupant Unavailable

How many people were living in the home during the billing period?

☐ Vacant ☐ 1 ☐ 2 ☐ 3
☐ 4 ☐ More Than 4 ☐ Don't Know

Are these energy bills typical of what was being paid each month?

☐ Yes ☐ No ☐ Don't Know

If no, please explain:

_____

What features of this home do you think are driving the energy bills up or down?

Driving bills down:

_____

Driving bills up:

_____

Were there any long vacations, periods when equipment was broken or unused or other conditions that might have caused these bills to be higher or lower?

☐ Yes ☐ No ☐ Don't Know

If yes, please explain:

_____

Have any new appliances been installed or other energy-using equipment been added?

☐ Yes ☐ No ☐ Don't Know

If yes, please explain:

_____

Have any energy efficiency improvements been made to the home since it was built?

☐ Yes ☐ No ☐ Don't Know

If yes, please list.

_____

Are you aware of any ways that you or others conserve energy in the home?

☐ Yes ☐ No ☐ Don't Know

Please explain:

_____

Have you ever had any kind of energy inspection at this address?

☐ Yes ☐ No

If yes, when?

_____

Who performed the inspection?

_____

Did you receive a written report?

☐ Yes ☐ No

Is the written report available?

☐ Yes ☐ No

Has the heating and air conditioning equipment been replaced?

☐ Yes ☐ No

Was the legally required duct sealing completed?

☐ Yes ☐ No

The California Energy Commission does not endorse any product, supplier, manufacturer, builder or organization.

The text in this booklet is designed to be informational and not all-inclusive.

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